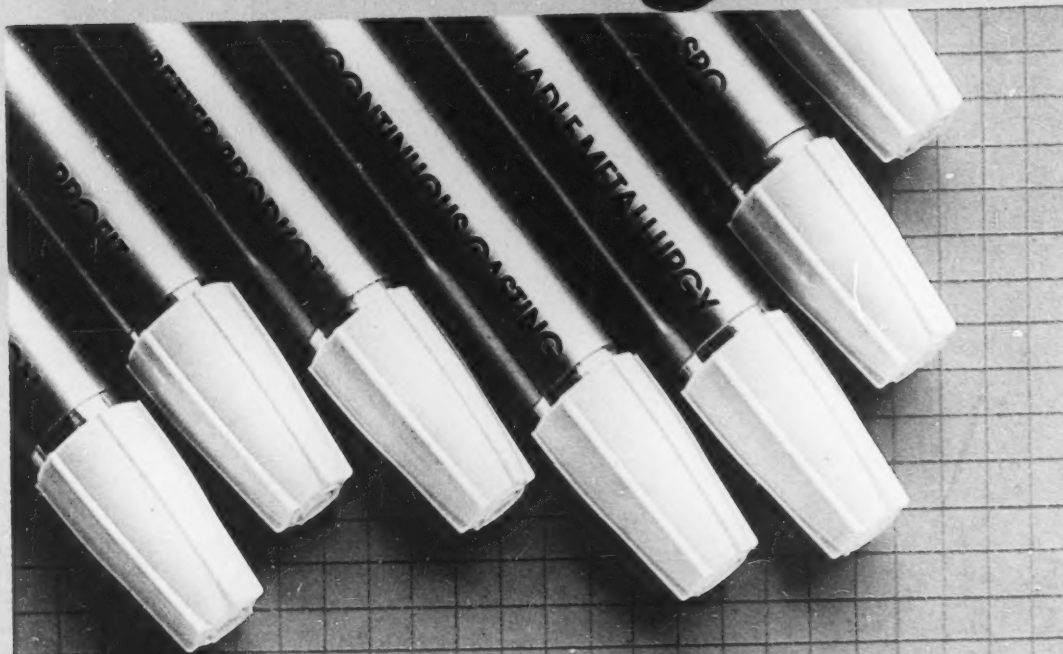


PurchasingWeekend®

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STEEL REPORT

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■ Packaging tags going up ■ Wharton transportation report

Special report: Steel buying

40 Strategy's the key for steel buyers

Real steel buyers know that there's plenty of bargaining opportunity in a highly competitive market. Members of *PurchasingWorld's* Steel Buyer Committee share their thoughts on controlling steel buying and give us their "wish list."

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The purchasing department has played a key role in reducing overall costs and returning the big steelmaker to profitability.



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First half price increases in most container types led by corrugated have sent packaging up, though second half hikes should be moderate.

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The pipers were 'pipin' and the speakers were talking about everything from the state of the economy to how best to involve minority suppliers in your business. The event: the N.A.P.M.'s annual conference. The place: The Big Apple.

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At New Jersey Bell, a bar code-based tracking system has put control into all of the so-called "front-end" functions—before the purchase order is issued.

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Fashion-oriented businesses have to get their merchandise to the selling floor in a timely way to be competitive. Here's how freight management services from the Bank of Boston are helping major retailers like Filene's and Filene's Basement, Woodward & Lothrop, and Joske's do just that.



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Prices pose no problem—yet

Take all the recent talk of accelerating inflationary pressures with a grain of salt. Prices are advancing slightly faster than last year. But this probably reflects a move back to the underlying rate of inflation.

There's evidence that things are still under control:

■ **A lingering overseas commodity glut:** Keep in mind that oversupplied commodities like steel and

nonferrous metals operate in a global market. As such, prices for these products here in the U.S. are likely to remain competitive.

■ **Excess domestic factory capacity:** U.S. operating rates continue to hold just under 80%—far under the 85% level needed to end the more than 5-year-old buyers' market. Signs point to little change.



■ **Continuing wage restraint:** A new government report finds that hourly compensation in the private nonfarm sector advanced at only a 1.5% annual rate over the past six months. Again, little change is anticipated—as year-to-date collective bargaining agreements call for less than a 2% pay boost over the first year of these contracts. And even these small increases should be at least partially offset by continuing, modest productivity gains.

■ **More progress in holding down other costs.** The drive to cut excess fat and streamline operations is paying off—especially in “smokestack” industries like machinery and metals. In the latter sector, one Wall Street analyst figures that average production costs have come down as much as 20% since 1983. All industries continue to benefit from relatively stable raw materials costs and small rises in borrowing rates.

■ **Stabilizing energy prices:** The worst is over. A new Wharton Econometric forecast sees little change here for the rest of 1987—in sharp contrast to increases of the past quarter or so. While some increases are projected for 1988, they are small. Wharton's equation suggests a 4% rise in average refiners' acquisition costs over that time span.

■ **The limited impact of the weaker dollar:** Tags in some industries such as paper have moved up strongly in recent months because of currency shifts. But increases haven't been across the board. Producers in many sectors are not inclined to use rising overseas tags as a reason to raise their own asking prices.

Foreign producers in some areas have opted to absorb exchange rate losses rather than raise prices significantly and jeopardize hard-won markets. Steel is a case in point. Imported metal prices are up only 4% on average over the past year.

■ **Still-strong buyer pressure:** The nation's industrial purchasing managers continue to use their buying leverage—insisting on cost justifications for major

price increases and getting at least limited price guarantees in exchange for volume orders.

Imports

Import prices continue to climb at a relatively fast clip, reflecting a still-weakening U.S. dollar. Even if the volatile fuel sector is eliminated, the increase over the past three months comes to 2.5%.

Keep in mind that this is 10% at annual rate. Compared to a year earlier, these tags (again ex fuel) are up 7.3%. If you compare them to two years ago when the dollar was at its high, the drop is an even more precipitous 14.4%. Nor is that the end of the line. Talks with government spokesmen suggest that further boosts are in the offing—with perhaps another 4.5% being added onto averages by yearend.

Here's a more detailed rundown on how these prices have been moving over the past three months:

■ **Crude materials:** A 4.8% increase was posted—the biggest in years—led by pulp and wastepaper (8.3%), imported wood (7.3%), metal ores and scrap (2.7%), and crude rubber (0.8%).

■ **Fuels:** Tags moved up an eye-opening 29.4% over the latest three-month period—though they still managed to remain 10% under a year earlier.

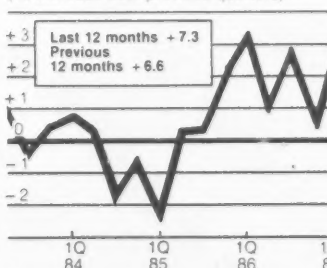
■ **Chemicals:** A 2.9% increase reverses three years of steady decline. Organic types were up sharply—offsetting a 3.4% decline in inorganics.

■ **Intermediates:** Each of nine separate categories contributed to a 2.0% advance. The largest boosts were noted in textiles (2.6%), steel (3.2%), and leather (4.3%).

■ **Machinery and transport:** Another 3.2% increase brings averages up 11.2% *vis a vis* a year earlier. For the past quarter, biggest hikes were in general industrial machinery (6.1%) and metalworking machinery (5.8%)—with the latter now running 16.6% above a year earlier.

Import prices head still higher

The overall trend (ex. fuel)
(% increase over previous quarters)



Source: Bureau of Labor Statistics

Product by product
(% increase over past year)

Textiles	5.8
Steel bars, rods, shapes	1.6
Fasteners	8.1
Tools	8.5
Elec. motors and gener.	11.9
Textile mchy.	21.6
Printing mchy.	19.6
Metalworking mchy.	16.6
Heating and cooling eqpt.	16.0
Pumps & compressors	17.0
Mechanical handl. eqpt.	21.6
Bearings	11.3
Office mchy.	9.3
Elec. mchy.	10.8
Autos	11.0
Electronic compon.	12.0

PW PREDICTS

Textiles

CURRENT SITUATION: Demand is still heading up. Textile mill production is running 7% above 1986—though recent advances have been more restrained. **Price averages are up**—to 3% above last summer's levels. Cotton and wool fibers are up even more. New increases have been posted on nylon textile and carpet fibers. And poly/cotton print cloth fabrics have recently climbed 6¢/yard. Denim has been heading up. **There are higher import tags**—averages are 6% above last year.

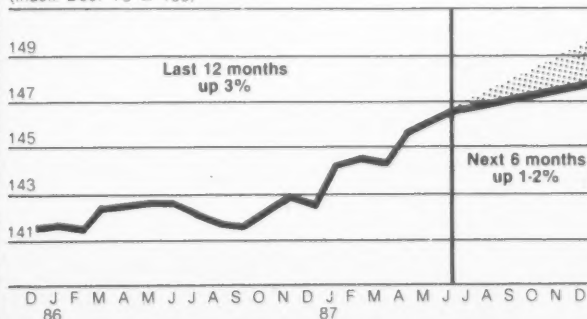
DEMAND: Further increases are expected this year. Total mill production will rise another 2-3%, suggesting that **production totals for 1987 will be up 5-6%**. This partly reflects small income gains and sluggish auto sales, freeing more money for smaller-ticket apparel purchases. **Low pipeline inventories are regarded as a near-term plus.** The "Crafted with Pride" and "Quick Response" programs should begin to slow import gains.

SUPPLY: Things aren't as easy as in 1986. But there's enough spot material to fill in holes. A sign of better market balance: the rise in mill operating rates. **The industry is producing at 94% of potential**—7% above 1986. More capacity is on the way. The industry is increasing capital spending to meet demand needs and to modernize. **One survey points to a 16% jump in mill capital spending in 1987 vs. 7% declines in 1985 and 1986.**

PRICE OUTLOOK: Plan on small advances through yearend—with 1% added onto overall price averages in each of the next two quarters. Sparking the increase: rising demand, high operating rates, reduced import availability in some areas as quotas are filled up, and rising fiber costs. For 1987 as a whole, mill product tags should average 3% above 1986's basically flat pattern. **A 4% advance is projected for 1988**—with knitting, broadwoven, and carpet mills sharing about equally in the advance.

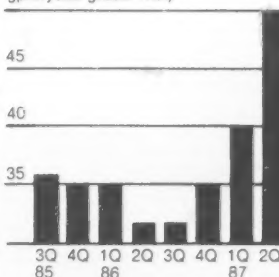
Textile mill product prices

(Index Dec. '75 = 100)



Polystyrene

(Transaction price
gp/crystal grade €/lb.)



Polystyrene

Still rising styrene monomer costs are forcing asking prices up 4¢/lb. The new quote is 52¢/lb for the general purpose crystal grade. And there's speculation about another boost before too long. Despite the recent advances, demand continues quite strong. Now the industry is talking about a 4.6-4.7 million lb sales year—up 4-5% from 1986. That should be enough to push the overall operating rate up to 86% (vs. 80% last year) as capacity rationalization knocks another 100,000 lb or so off the industry's production potential.

Cobalt

Major African producers are holding lists at \$7/lb—with discounts of up to 11% available depending on volume and competitive conditions. Behind their decision to forego an increase: Excess supplies and loss of market share to by-product producers such as Inco and Falconbridge. In any event, there's enough metal available—and the latest \$6.50/lb spot price is

likely to edge lower in the months ahead. Another price-rise inhibitor: U.S. apparent consumption is expected to show little or no gain from last year's disappointing 7,500 ton total (far under the 8,948 ton peak in 1984).

Computers

Superminis should start coming down sharply as Prime Computer introduces new models said to offer twice the performance of competing models at the same price. But these powerful computers still aren't cheap—two new machines have base prices of \$549,000 and \$804,000. Discounting is already reported on IBM's new Model 30 PC—\$245 is being shaved off the \$1,945 list, which includes 2 disk drives and a monochrome screen. But really cheap clones of the new IBM PC are still at least 6-9 months away.

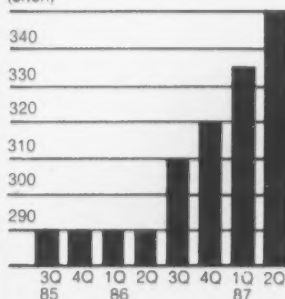
Postal rates

Mixed news from the U.S. Postal Service. On the rosy side: New rates proposed for mid-1988 would drop tabs on Express Mail—from the current \$8.35-104.95 range down to the \$7.75-70.00 range. Also anticipated for Express Mail: volume discounts, improved pickup service, and a reduced rate for parcels weighing 8 oz. or less. But this is offset by plans to boost the first class mail rate from 22¢ to 25¢. Charges will also go up for each additional oz.

(up 3¢ to 20¢) and mail on which business customers use the 9-digit ZIP code (up 1.9¢ to 23¢). But the rate for first class mail that customers partially sort by applying computerized bar codes—a new classification—will be 20.2¢/oz.

Linerboard

(\$/ton)



Paper

Customer resistance has delayed the proposed \$30/ton increase in linerboard—probably until the 3Q. This should slow down recent corrugated carton price boosts. Coated paper (notably groundwoods) remain quite competitive as excess capacity keeps sellers on the defensive. Ditto, uncoated grades as tonnage from two new machines comes onto the market. Strength continues in market pulp and tissues where prices are now moving up.

Lead

Don't expect the recent price runup to hold: Increases are not due to demand but to Canadian labor problems. Demand from key battery makers is likely to drop in the weeks

ahead—reflecting the start of the traditionally slow summer season. Best bet for prices: general softening once labor woes are resolved—with quotes sliding back into the mid-to upper-20s by late July or August. After that there could be some modest recovery—but probably not enough to sustain even a 30¢/lb quote.

Zinc

A recent rally has brought tags up into the low 40s again. Labor troubles have been behind much of the runup—with some help coming from seasonal demand and falling producer stocks. Quotes should eventually head lower, dipping into the upper 30s this summer as supplies begin to increase again. Nor is any big overall 1987 demand advance anticipated. Right now, U.S. industry is expected to consume only 1% more than the 1,022,000 metric tons that cleared the market last year.

Aluminum

Markets remain strong. Signs of the time: advances in 1) the U.S. ingot market price (to 66-67¢/lb), 2) used beverage can scrap (to 47¢/lb), and 3) selected fabricated products. Also indicative of strength are the start-up of previously idled domestic capacity and a reduced inventory overhang. And with average U.S. smelter costs down to near 53¢/lb, all firms are now solidly in

Copper

CURRENT SITUATION: Copper has mounted a modest rally, moving up beyond the 70¢/lb level (producer basis) for the first time in over a year. But demand remains so-so as some big markets continue to disappoint. **U.S. producers continue to make cost cuts.** One producer (aided by a new production process and lower labor costs) now talks of a 50¢/lb cost goal. Average industry costs are near 60¢/lb—vs. the 70¢/lb in 1983.

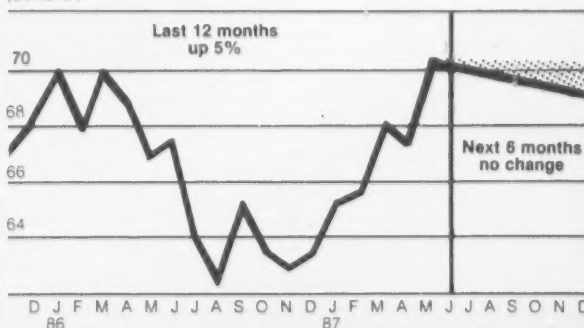
DEMAND: 1987 will not be robust—as major markets (automotive and construction) take a breather. Demand from machinery makers will not be great and there's continued loss in the telecommunications industry to fiber optics. **Domestic consumption will barely equal 1986's 2.13 million metric ton level.** Global use could slip from 7.4 million tons in 1986 to 7.3 million in 1987. No pickup is expected in the long-term. Without big new use, domestic consumption will only gain 1% a year through 1990.

SUPPLY: Total domestic production will be up 7% in 1987. The gain is due to the reopening of Kennecott's Utah Copper Div. and increased output from the solvent extraction-electro-winning process. Totals could increase another 7% by 1991. There's lots of capacity abroad—mostly in the Third World where foreign exchange needs dictate full-scale production. **Falling global inventories are stabilizing and could show gains soon.**

PRICE OUTLOOK: No further appreciable near-term advance is seen given current supply-demand fundamentals. Reduced costs could be a price-rise inhibitor; if prices rise above 70¢/lb, mine reopenings will be encouraged, driving prices back down. Estimates for 1988 suggest no fundamental change. There could be slight advances in line with general inflation. **But there are few signs of 1988's prices averaging above 75¢/lb.**

Producer Copper Prices

(Cents/lb.)



PW PREDICTS

the black. As for the next 3-6 months, all signs point to further modest advances—with ingot moving to the 70¢/lb level by late summer. But that should be it as new and re-opened facilities—both here and abroad—begin to add to supply.

Vacancies

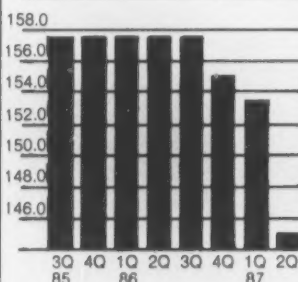
Continue to press for concessions in the glutted office space market. Average suburban rates are up to 23.9%—close to the all-time peak. While there was a fractional decline in downtown numbers, the average 16.3% rate is still quite high. Zeroing in on downtown areas, very high (over 20%) rates are noted for Dallas, Denver, Houston, Miami, New Orleans, Oklahoma City, Portland (OR), Salt Lake City, and San Antonio. There should be good buys on factories, too—as the industrial vacancy rate rises to 5.9%—a new all-time peak.

Sulfur

Tags are weakening as Frasch producers battle it out with producers of recovered material in what is now a relatively sluggish market. World demand is expected to advance only 1.7% this year—to 60.2 million long tons. The new, discounted quote for Frasch sulfur is just \$135/ton, FOB Tampa—off \$8/ton from previous levels. Prices for recovered sulfur are said to have dropped by a similar

Sulfur

(\$/long ton list price
F.O.B. Tampa)



amount, and that's not the end of the line. Some users predict another decline later this year—especially after the phosphate industry has its seasonal slowdown.

Computer security

The market for both products and services is soaring—and should reach \$2.8 billion this year (up 700% from 1982). And there's potential for a lot more growth, according to a new study by International Resource Development. The Norwalk, CT-based market research firm cites the fact that large corporate data processing managers are still taking "hair-raising risks" with their computer information—through neglect of both backup and safety provisions. Two new protective approaches: use of fiber optic modems which makes tapping almost impossible, and use of biometric systems which provide positive identification by measuring aspects of a person's physiology that are not susceptible to duplication.

Computers

Change is taking place in the dynamic personal computer market. Latest developments include continuing price erosion; introduction of new, more powerful models; and better 1987 demand gains than expected.

Most major vendors have followed IBM in reducing prices on existing models to make room for newer ones. Reductions in recent weeks—some more than 20%—have been announced by AT&T, NCR, Hewlett-Packard, and Epsom America.

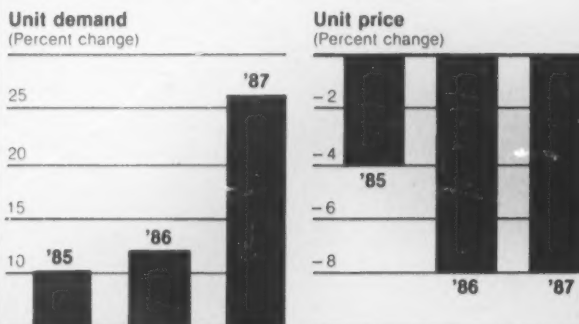
The question is how long the current quotes will hold before the next round of price cuts. There could be some stability until early fall as users evaluate IBM's new product offerings known as the Personal System/2. But after that, there could be further price attrition especially when new IBM clones begin to hit the market.

No matter how small the price decline, there does seem to be renewed interest in purchasing these machines. IBM, Apple, Tandy, and Compaq all report substantial early 1987 sales gains. This has led the industry to upgrade its forecast suggesting a 25-30% unit gain for 1987.

Much of this advance is based on the introduction of newer models. Other factors include the shift to direct sales methods for marketing PCs to businessmen and the proliferation of software that has made PCs more useful and easier to work with. And there's the price decline which has made fully-equipped IBM clones available for as little as \$750. While the newer models will cost more than that, prices in terms of computer power are lower than ever.

The increase in computer activity is not limited to PCs. A new study by Data Resources Inc. suggests that the entire industry (minis, mainframes, and PCs) will have a good year. Its recent survey of 537 companies reveals that computer and office buyers expect to increase their spending on such products by 28% this year vs. the 8% drop in 1986.

Personal computer market trends

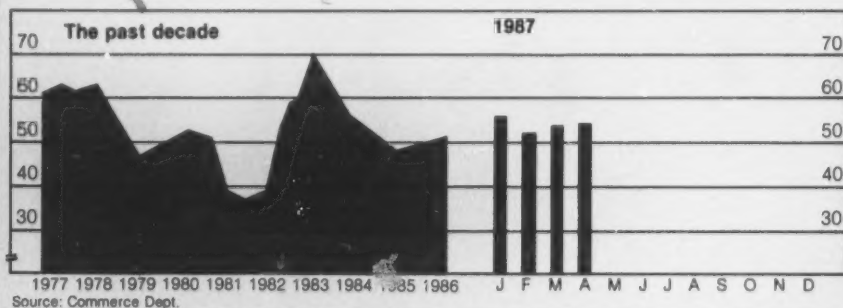


Source: Computer & Business Equipment Manufacturers' Association

BUSINESS DATATRAK

N.A.P.M. business barometer

Based on five indicators (employment, inventories, new orders, production, vendor performance)



Source: Commerce Dept.

KEY ECONOMIC TRENDS

1987 keeps looking better

The next few months don't look bad—considering that activity normally slows down during the summer months.

The most encouraging sign is that the bellwether N.A.P.M. Business Barometer continues to hover around 54—four points above the neutral 50 mark. The N.A.P.M. Business Survey Committee chairman observes, "Past experience indicates that if this were to continue for the rest of the year, it would be consistent with real GNP growth of about 3%."

Committee members—by an 8-to-1 margin—also expect 1987 to be better than 1986. This marks an improvement over last December when the ratio of optimists to pessimists concerning 1987 was only 3-to-1.

But there are concerns. Some people feel that today's higher interest rates could put a crimp in near-term advances; this seems unlikely. While there could be some fall-out in the construction sector, the increase shouldn't have much impact on other sectors such as retail sales and capital spending.

The weaker dollar is offsetting higher interest rates and should help stimulate exports and reduce imports. The trade deficit will be driven down, exercising some positive impact on domestic demand and industrial production.

On the latter score, output should rise at about a 3% annual rate over the next six months—enough to push the yearly average gain to about 2%.

More reassurance—look at the accompanying chart which shows low factory stock sales ratios—more than 5% under a year ago. This ratio almost always tends to rise in the latter stages of a business pickup.

Low inventories mean new orders will require new production. This will have a stimulating effect on the economy.

Not everything is pointing up. Auto sales continue to disappoint (see chart) lagging far under last fall's readings.

Detroit has cut production schedules to only 1.5 million domestic cars—8% lower than one year earlier. These totals could change if financial incentives whet consumers' appetites.

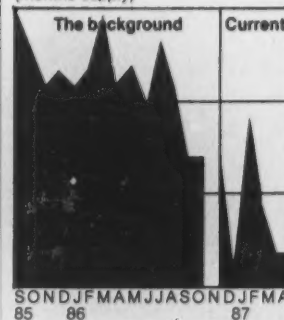
U.S. families don't show any indication that they're cutting back. Retail sales, except cars, remain brisk. Continuing low savings rate and consumer expectation surveys point to relatively good overall spending in the months ahead.

The employment picture also remains fairly bright. Help wanted advertising—a key indication of near-term trends—is actually moving up and is now at its highest level in years.

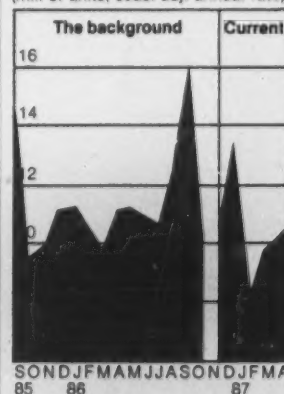
The Conference Board

Leading indicators

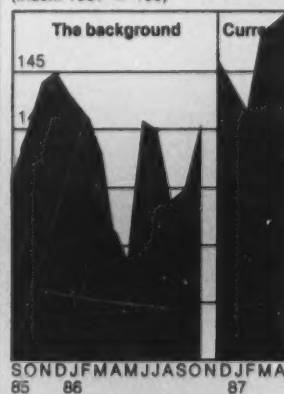
1. Factory stock/sales ratio (months supply)



2. Auto sales (mil. of units, seas. adj. annual rate)



3. Help wanted advertising (Index: 1967 = 100)



BUSINESS DATATRAK

(compiler of these numbers) notes that business leaders appear more disposed to step up hiring.

If nothing else, this should keep the unemployment rate from rising. Right now, jobless totals are expected to remain near the first quarter's 6.7% level. That would mean some modest progress *vis a vis* last year when 7% of the nation's labor force, on average, was looking for work.

Lazy days ahead for operating rates

The year is nearly half over and there's still no appreciable increase in factory operating rates.

Latest government reports show the average utilization figure still holding in the low under-80% range (see table)—virtually unchanged from the previous few quarters. There has been no significant trend in this key business barometer for over three years. That's why availability and price continue to present few problems to industrial buyers.

Why the stability? In statistical terms, it reflects

recent slow industrial growth which is being offset by continuing capacity additions. The 2.1% increase in production potential over the past 12 months very nearly matches the 2% advance in industrial output over the same period.

There are a few areas where demand seems to be approaching capacity. Paper industry operating rates are currently running in the 96%+ range. And textiles aren't far behind at 94%.

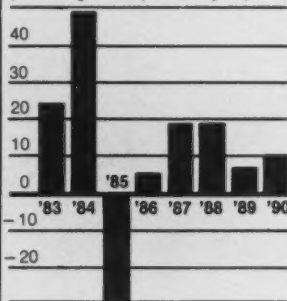
But even in these cases, things are under control. The paper industry, for example, prefers a very high operating rate. As for textiles, there are enough overseas producers ready, willing, and able to plug up any holes in the supply line that might develop.

Other industries are hard-pressed to remain at the low 70% level. This is true of machinery (both electric and non-electric) and primary metals. Mining also remains in the doldrums around the 75% level.

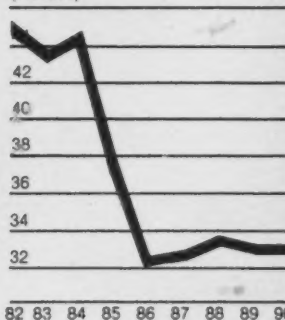
More important, there is little indication of any meaningful change in the overall situation. Most forecasters see industrial

US semiconductor demand: Two views

Consumption changes
(% change from previous year)



Share of global use
(Percent)



Source: Semiconductor Industry Association

production advancing by no more than 3% over the next 12 months. So even if one assumes the same slow 2% rate of growth in new capacity, that would still leave operating rates under 81% by mid-1988.

This is still quite low by historical standards. Most economists see 85% as the dividing line between a buyers' and a sellers' market. By no stretch of the imagination does this rate seem possible in the near future.

certainly respectable, will be more restrained. Japanese usage is targeted to increase only 12% and 14% in 1987 and 1988.

Nevertheless, Japan should continue to be the world's biggest consumer of chips. That's because they specialize in the kinds of products—digital TVs, VCRs, etc.—that require heavy use of semiconductors.

Viewed from a product basis, the most dramatic global demand gains will again be in CMOS, as the shift continues away from the NMOS- and PMOS-based technologies. Usage of CMOS LOGIC devices should show worldwide advances of 34% and 29% in 1987 and 1988.

Similarly global CMOS MEMORY consumption, starting from a base of less than \$1 billion last year, will grow 57% in 1987 (to \$1.5 billion); subsequent annual increases of 38-52% per year should bring totals up to \$4.6 billion by the end of the decade.

Integrated circuits should show increases, too. Worldwide advances for both 1987 and 1988 are expected to be 19%. There could be some slowdown in 1989 and 1990. Gains

No more dip for chips

Semiconductor demand is on the rebound after several years of disappointing results. New figures released by the Semiconductor Industry Association provide the details:

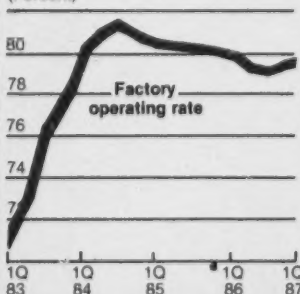
■ U.S. consumption is expected to hit \$10.1 billion this year, up 19% from 1986. And 1988 is expected to see a similar 19% advance (see chart).

■ Quarterly figures are even more optimistic. Each quarter this year is expected to top the previous one, so that 4Q 1987 will top 4Q 1986 by 29%.

■ Non-U.S. growth, while

Capacity: Still more than ample

The big picture
(Percent)



Source: Federal Reserve Board

Industry by industry
(Latest operating rates-%)

Primary metals	70.2
Fabric metal products	80.4
Non-electric machinery	69.3
Electric machinery	70.5
Autos	81.2
Aerospace	89.1
Instruments	78.2
Textile mill products	94.3
Paper & products	96.7
Chemicals	82.0
Petroleum products	88.7
Rubber & plastic products	87.5
Utilities	81.5

BUSINESS DATATRAK

over this latter period are expected to be 9-11% per year.

CURRENT PRICES

More modest increases

Chalk up another month of modest industrial price hikes.

This month's breakdown

	Latest level (April)	% change from: Month ago	Year ago
Bearings	358.2	0.0	0.7
Bolts, nuts, etc.	278.0	-0.1	0.9
Chemicals, inorganic	291.6	0.0	-1.6
Chemicals, organic	346.4	1.4	3.8
Concrete products	325.7	0.3	-0.2
Corrugated cartons	294.1	0.7	11.9
Cutting tools, small	294.2	0.3	1.3
Electric lamps (bulbs)	347.5	-0.7	-0.3
Electronic components	202.2	0.2	0.9
Fans and blowers	371.4	-0.3	0.9
Foundry and forge products	363.7	0.2	-0.2
Fuel oil (residual)	614.6	3.9	18.8
Furniture, commercial	326.3	0.8	3.1
Gasoline	388.8	5.5	14.2
Glass, flat	236.9	1.0	3.0
Glass containers	403.8	-1.0	2.3
Gypsum products	324.5	-0.9	-6.3
Hand tools	393.3	0.2	2.7
Hand tools, power driven	242.6	0.0	2.5
Industrial furnaces	402.8	0.4	2.2
Integrating and measuring instruments	239.9	0.1	2.3
Internal combustion engines	359.0	-0.1	1.8
Lubricating oil	351.5	1.5	-6.8
Lumber millwork	326.4	0.7	3.6
Material handling equipment	299.4	0.2	1.1
Metal containers	360.6	0.3	-0.4
Metal mill shapes (nonferrous)	305.6	1.9	1.9
Metal tanks	300.9	0.3	-0.8
Motors and generators	355.0	0.4	1.4
Motor trucks	323.8	3.1	4.4
Office and store equipment	157.5	0.1	2.1
Paperboard	295.8	1.1	10.5
Paper boxes and shipping containers	284.9	0.4	7.1
Paper office supplies	244.0	0.2	2.1
Paint	282.9	0.3	0.8
Plastic resins	301.4	2.6	1.6
Precision measuring tools	272.6	-0.4	2.2
Pumps and compressors	365.2	0.1	1.1
Refractories	371.2	0.1	-0.2
Rubber belts and belting	334.5	0.2	-0.6
Scales and balances	234.0	0.1	1.2
Steel products	351.9	0.0	1.7
Switchgear	290.9	0.0	1.5
Textiles, synthetic fibers	147.5	-0.9	-1.5
Textiles, gray fabrics	153.1	1.7	1.2
Tires and tubes	232.2	0.4	-1.6
Transformers and power regulators	236.1	-0.4	0.6
Welding equipment	303.9	0.2	1.4
Wire and cable	203.7	-0.8	-1.5

PurchasingWorld's latest rundown—collected from the Bureau of Labor Statistics—suggests overall prices advanced 0.5%, or 6% at annual rates.

Part of this reflects a continued rise in fuel and power costs (up 1.7% over the latest month). Increases were posted on crude petroleum, natural gas, gasoline, home heating oil, diesel fuel, and residual fuel. These were more than enough to off-

set declines in electric power, coal, and liquid petroleum gas.

Energy increases spilled over into products such as industrial chemicals, synthetic rubber, and plastic resins. The latter jumped a sharp 2.6% over the month as boosts were posted in polyethylene, polypropylene, polystyrene, PVC, and ABS.

Several metals also rose. Gold and silver lead the way while lead, zinc, copper, and aluminum all managed to post modest boosts. Ditto steel, where discounts continued to narrow.

There were also some increases in capital equipment—up 0.3% overall for the month. Hikes were noted in autos, light trucks, X-ray equipment, and commercial furniture. On the other hand, some small declines over the period affected heavy trucks, oil and gas field equipment, and transformers.

About the only weak area was construction materials, where declines were reported for plastic plumbing products, plywood, nonferrous wire and cable, metal valves, and asphalt felt and coatings. But lumber millwork continued to edge up.

The current overall rate of increase is expected to slacken over the next few months—primarily because of flattening energy prices which should moderate impact on chemicals and plastics.

One BLS spokesman sees industrial prices through summer rising at a 3-4% annual rate. That's more than the 6% annual rate of a few recent

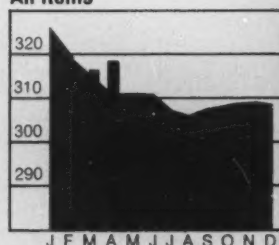
Industrial prices

(Index: 1967 = 100)

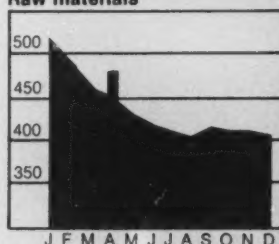
■ 1986

■ 1987

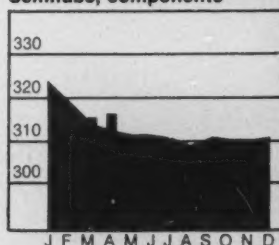
All items



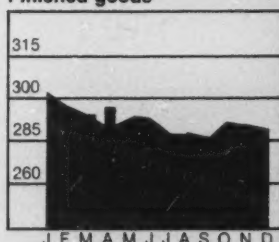
Raw materials



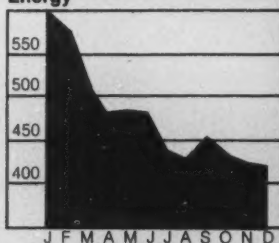
Semifabs, components



Finished goods



Energy



Source: Bureau of Labor Statistics

months, but a lot different than last year, when sagging oil helped bring general declines.

STEEL SCENE

Plate availability concerns creep in

The nation's steel buyers are becoming more concerned about availability. More than half of the respondents to a new N.A.P.M. survey are uneasy about at least one steel item. Major concerns center around sheet prod-

ucts. Many PMs are keeping an eye on both cold-rolled and coated sheet.

Steel service centers tell the same story, noting that supplies from integrated domestic producers and importers are tight. Many feel that voluntary restraint agreements are finally beginning to work.

One distributor adds, "There's just no flat-rolled available through June, or galvanized until late September. I'd say the mills are falling behind."

Leadtimes for steel plate have lengthened dramatically since the first of the year—typically reaching 12-14 weeks, and 14-16 weeks for heat treated grades. One reader, query-

ing the widely-published 3-4 week leadtimes in steel plate, pointed to his experience of waits up to 16 weeks. One mill, he said, is unwilling to commit to any delivery date in the 3Q.

The average American Iron and Steel Institute operating rate also supports a snigger market scenario. Over the latest reported month, mills operated at 80% of their potential vs. the 60-65% figures of January and February.

This increasing uncertainty about supply could be one reason why inventories have been edging up in recent days—reaching the equivalent of 2.07

months' supply on the buyer level. This is about 4% above the months' supply reading of just 30 days earlier.

Some inching up in steel distributor inventories has also occurred. The latest Steel Service Center Institute (SSCI) survey puts its members' months' supply at 3.27—a few percentage points above month-earlier readings.

Add in early 1987 consumption gains, and it's easy to see why demand has turned a lot more bullish. In any case, PMs planning to increase steel buys now outnumber those who see some pullback.

The story is the same on the service center front but

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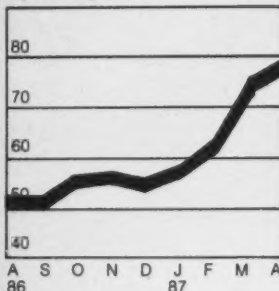
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BUSINESS DATATRAK

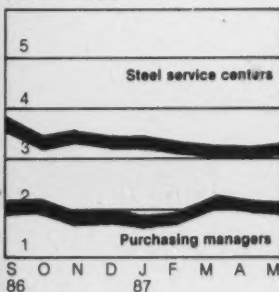
Steel

Operating rates



Inventories

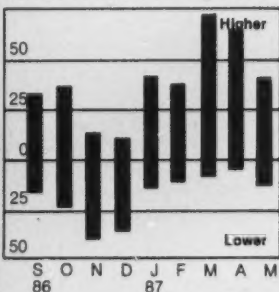
(Months supply on hand)



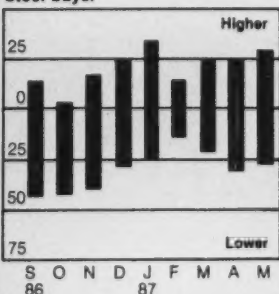
Demand

(Percent of respondents)

Service centers incoming orders



Steel buyer



Source: Steel Service Center Institute, NAPM Steel Buyers Committee

the figures are more impressive. The 42% who expect an increase in new orders over the next three months outnumbers those who predict a decline by a ratio of four to one.

The big question is whether these demand forecasts are realistic or merely straight-line projections of first quarter shipment gains.

SSCI president, Andrew G. Sharkey, isn't quite sure. He notes that some change in member company business climate is entirely possible. He thinks that in the months ahead, member companies will experience the full impact of mill price increases, especially in sheet and plate, which may place them in a difficult position with larger end users.

Also of concern to Sharkey are current forecasts for reduced steel consumption in 1987 and questionable market strength in some key steel-consuming sectors.

Getting back to prices, most service centers ate the recent runup. This doesn't show up in official government indexes which are list-oriented. But look at transaction tags, and

some items are running \$60/ton above late 1986 levels.

The fear of further advances is readily apparent from an SSCI survey question on replacement costs over the next six months—53% of respondents see these costs rising. Only 6% hope for declines.

About the only encouraging sign is that most of the anticipated boosts are in the modest 2-5% range—not that much given current market conditions.

Another interesting development on the price front: Only 21% of service centers say they are now being offered carbon steel below comparable U.S. levels. A year ago the figure was 61%.

PROCUREMENT STATUS

No wait problems expected

Late spring seems to have ushered in a few problems, but all seem manageable.

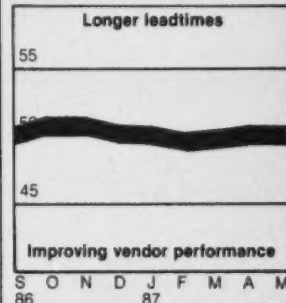
Some steel items are harder to get. The situation should improve by late summer or fall as demand levels off and additional production is introduced. Some electronic items have stretched out because of reduced Japanese availability. There should be enough once the trade situation is straightened out.

Most buyers see the above as exceptions and expect a problem-free second half. This is borne out by *PurchasingWorld's*

Monthly procurement status report

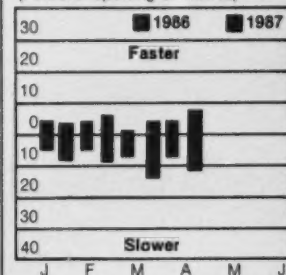
Leadtime index

A "diffusion" index based on 158 key commodities. Above "50" indicates a tendency for leadtimes to stretch out. Below "50" suggests improving vendor performance.



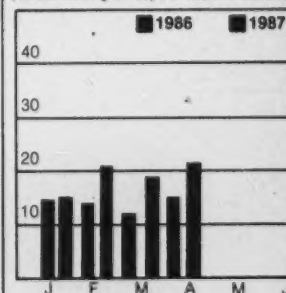
Delivery performance

(Percent reporting deliveries)



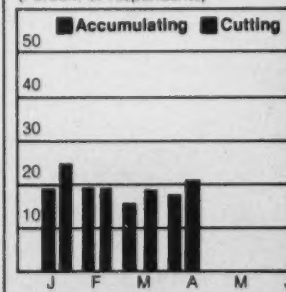
Forward commitments

(% committing 90 days or more in advance)



Inventory strategy

(Percent of respondents)



Source: NAPM

leadtime index of 150 items. It now stands at 51 (50 is neutral).

Viewed from another perspective, most items remain unchanged—not bad considering that industrial production has been edging up in recent months.

N.A.P.M.'s speed-of-delivery index says that although more PMs are reporting slower vendor performance (11%) than faster (7%), the difference is small. Most report no change.

Buyers cite several factors for few procurement headaches: low operating rates, better communication between buyers and sellers, and a heavy influx of imported items.

A few buyers are upset

by higher prices (increases have been outnumbering decreases since before January). But this is being taken in stride.

Lack of concern about shortages and price pickups shows in the decision by most PMs to keep inventories lean. A few may have slid in extra tons of steel, but not enough to prevent another decline in overall inventories. At latest report, 21% of the queried buyers were cutting, with only 17% adding to stocks.

The most reassuring sign of all is that 51% of the N.A.P.M. respondents are continuing to commit 30 days or less in advance for production materials vs. 54% in 1986.

Leadtimes and availability

Chicago: H-r bars are out (to 10-12 weeks) as are heavy and light plates (to 8-10). Softening auto sales should help ease steel. Extensions include special copper and brass sheet (10-12).

Cleveland: Plastic packaging waits have dropped (to 4-5 weeks). Other leads: alloying materials and plastic shrink film (on demand); glassines and greaseproof papers (4-5); hardwood lumber, corrugated boxes, folding boxes, and PVC resin (2-3); and steel canisters (2).

Los Angeles: Current leads (in weeks): aluminum sheet (12), aluminum tubing and plate (12-14), standard fasteners (4), special fasteners (8-10), standard valves (10-12), standard bearings (20-24), plastic resins (8), linear ICs (30), lube oils (2), and polyethylene bags (4).

Houston: Large pumps are down (to 4-6 months). Heavy carbon won't be available until September. The Japanese are reluctant to bid on rotating equipment (motors, pumps, fans).

Philadelphia: Stretching out are (in weeks) stainless round coil (12), memory ICs (14-16), EPROM ICs (on allocation), and less-than-1% metal film resistors (12-14). Coming in are 1-5% metal film resistors (6), LTL ICs (8-10), and ferrite transformers (12-14).

Pittsburgh: Zinc is out to 3 weeks. Unchanged are other alloying materials (at 2), paper bags (4-6), multiwall bags (6), corrugated and folding cartons and lumber (3-4), wirebound boxes (4-5), waterproof paper (8), coil coating paint (4), polyethylene (5), and PVC (6).

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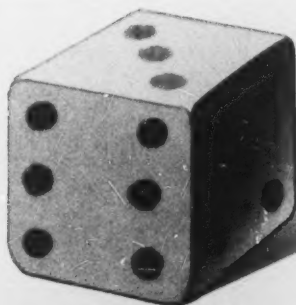
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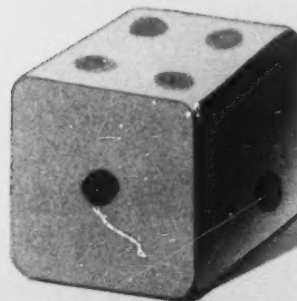
BUSINESS DATATRAK

Leadtimes (in weeks)	Now	Month ago	Six months ago		Now	Month ago	Six months ago
STEEL				LUMBER			
Sheet (Phil)	4	4	4	Hardwood (Pgh)	3	3	3
C-R Sheet (Chgo)	8	8	10	Hardwood (Clev)	2½	2½	2½
Plate (Phil)	12-16	3½	3½	Plywood (Chgo)	3	3	3
Plate (Chgo)	12-16	4	4½	Plywood (Phil)	1½	1½	1½
Reinforced (Hous)	6	6	6	Softwood (Clev)	2	2	2
H-R Bars (Phil)	5½	5½	5½	Softwood (Phil)	½	½	½
H-R Bars (Chgo)	11	6½	4½	Softwood (Pgh)	3	3	3
Cold-Drawn Bars (Phil)	5½	5½	5½	Particleboard (Phil)	2½	2½	2½
Galvanized (LA)	13	13	13	CHEMICALS-PLASTICS			
Galvanized (Chgo)	12	12	6½	Adhesives (LA)	½	½	½
Structurals (Chgo)	4½	4½	4½	Naphthalene (Chgo)	2	2	2
Structurals (Hous)	11	11	17	Paint (LA)	4	4	4
Tubing (Phil)	5½	5½	5½	Paint, Coil Coating (Pgh)	4	4	4
Grey Iron Castings (LA)	7	7	7	Paint, Maint. (Cleve)	2	2	2
Steel Castings (Hous)	11½	11½	11½	Polyester Resin (LA)	2	2	2
Forgings (Hous)	6	6	6	Polyethylene Resin (Cleve)	2½	2½	2½
Pipe, Carbon (Hous)	17	17	17	Polyethylene Resin (Pgh)	4	4	4
ELECTRIC & ELECTRONIC				PVC Resin (Chgo)	2	2	2
Cables (Chgo)	8½	8½	8½	PVC Resin (Pgh)	6	6	6
Capacitors (Chgo)	16	16	14½	Titanium Dioxide (LA)	1	1	1
Circuit Breakers (Chgo)	6	6	6	PACKAGING			
Electromech. Devices (LA)	7	7	7	Bags, Kraft (Pgh)	5	5	5
ICs (Linear) (Phil)	4½	4½	9	Bags, Multiwall (Clev)	9	9	9
Motors (Phil)	9	9	9	Bags, Multiwall (Pgh)	6	6	6
Motors, 1000 hp & Up (Hous)	39	39	39	Cartons, Corrugated (Cleve)	2½	2½	2½
Printed Circuit Boards (Chgo)	9	9	9	Cartons, Corrugated (Hous)	2	2	2
Relays (Chgo)	15	15	15	Cartons, Folding (Phil)	6½	6½	6½
Resistors (Chgo)	9	9	9	Cartons, Folding (Pgh)	3½	3½	3½
Resistors, Wirebound (Phil)	5	5	5	Cellophane Wrap (Phil)	5	5	5
Transformers (Chgo)	10	10	10	Plastic Bags (Pgh)	3½	3½	3½
				Plastic Pkg. (Pgh)	3	3	3



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	Now	Month ago	Six months ago
Shrink Film (Chgo)	6	6	6
Shrink Film (Clev)	1	1	1
Drums, Fiber (Pgh)	1	1	1
Drums, Steel, Std. (Pgh)	1	1	1
Wood Pallets (Chgo)	2½	2½	2½
Wirebound Boxes (Pgh)	4½	4½	4½
Strapping (Clev)	1	1	1
Strapping (Pgh)	3	3	3

PAPER

Fiberboard (Clev)	3½	3½	3½
Glassine (Clev)	4½	4½	4½
Glassine (Pgh)	5½	5½	5½
Groundwood (Clev)	4½	4½	4½
Groundwood (Pgh)	7	7	7
Kraft (Clev)	1	1	1
Kraft, Bleached (Clev)	1	1	1
Kraft, Bleached (Pgh)	5	5	5
Kraft, Natural MFNS (Clev)	½	½	1
Laminated (Clev)	8	8	8
Tissue (Pgh)	5½	5½	5½

NONFERROUS

Aluminum Coil (Chgo)	13	13	11
Aluminum Plate (Chgo)	12	12	12
Aluminum Sheet (LA)	4½	4½	4½
Aluminum Sheet (Chgo)	13	13	11
Brass Castings (LA)	9	9	9
Brass Rods (Chgo)	7½	9	9
Brass Sheet (Chgo)	11	6	5
Brass Tube (Chgo)	13	7	4
Copper Fittings (LA)	3½	3½	3½
Copper Mill Prod. (Pgh)	6	6	6

	Now	Month ago	Six months ago
Copper Tube (LA)	7	7	7
Copper Tube (Phil)	5½	5½	5½
Lead (Pgh)	2	2	2
Magnesium (Pgh)	2	2	2
Manganese (Clev)	1	1	1
Nickel (Clev)	1	1	1
Nickel (Pgh)	2	2	2
Silicon (Clev)	1	1	1
Tin (Pgh)	2	2	2
Wire, Specialty (LA)	5	5	5
Zinc (Pgh)	3	2	3

MISCELLANEOUS

Bearings, Domestic (Phil)	2	2	2
Bearings, Foreign (Phil)	26	26	26
Boilers & Furnaces (Hous)	35	35	35
Compressors, Centrifugal (Hous)	50	50	48
Compressors, Reciproc. (Hous)	39	39	39
Fasteners (Chgo)	1½	1½	1½
Fasteners (LA)	8	8	9
Fasteners, Std. (Phil)	3	3	3
Heat Exchangers, Carbon-alloy Steel (Hous)	21	21	21
Heat Exchangers, Hi-pressure (Hous)	24	24	26
Insulation Mat'l. (LA)	7	7	7
Machined Parts (Hous)	9	9	9
Pipes & Valves (Chgo)	1½	1½	1½
Pumps (Hous)	21	24	24
Pumps (LA)	11	11	11
Rubber, Synthetic (LA)	2	2	2
Rubber Hose (LA)	4	4	4
Tungsten Carbide Parts (Hous)	15	15	15
Valves, Cast Steel (Hous)	4	4	17
Welding Supplies (Hous)	5	5	5

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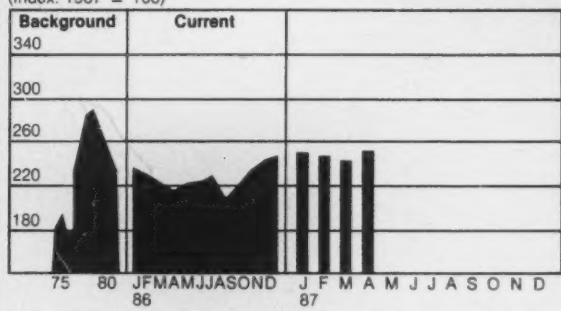
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BUSINESS DATATRAK

Raw material price barometer

Latest month 252.3
Month before 246.3
Year ago 219.9

(Index: 1967 = 100)



Latest spot market prices

	Latest price	Previous month	Year ago
FERROUS METALS			
Pig iron, basic, valley, gross ton	213.00	213.00	213.00
Pig iron, Bessemer, Pitts., gross ton	213.00	213.00	213.00
Steel, billets, Pitts., net ton	367.00	367.00	367.00
Steel, structural shapes, Pitts., cwt.	23.90	23.90	23.90
Steel, structural shapes, Chi., cwt.	23.90	23.90	23.90
Steel, structural shapes, Los Angeles, cwt.	23.90	23.90	23.90
Steel, bars, divd. Phila., cwt., merchant quality	16.50	16.50	23.95
Steel, bars, Pitts., cwt.	16.50	16.50	23.95
Steel, bars, C.R., Pitts., cwt.	19.45	19.45	31.00
Steel, plates, Pitts., cwt.	18.25	18.25	18.25
Steel, plates, H.R., Pitts., cwt.	18.25	18.25	18.25
Steel, sheets, C.R., Detroit, cwt.	26.90	26.90	25.90
Steel, strip, C.R., Chi., cwt.	36.18	36.18	36.18
Steel, basic wire, Pitts., cwt.	23.65	23.65	23.65
NONFERROUS METALS			
Aluminum, ingot, lb. (market place)	.655	.630	.595
Antimony, N.Y., dealer, lb.	1.15	1.12	1.35
Beryllium-copper, cost ingot, lb.	5.65	5.65	5.35
Brass, red, 85%, [sheet], lb.	1.33	1.32	1.32
Brass, yellow, [sheet], lb.	1.28	1.27	1.28
Cadmium, N.Y., dealer, lb.	1.20	0.95	1.19
Copper, electrolytic, wire bars, reld., lb.	.69	.68	.68
Copper sheet, over 24 in., lb.	1.42	1.41	1.41
Lead, common, N.Y., lb.	.33	.26	.19
Magnesium, pig ingot, [99.8%], lb.	1.53	1.53	1.53
Mercury, 20 fl. lots, N.Y., fl.	310.00	260.00	253.00
Molybdenum, oxide, dealer, lb.	3.05	3.05	2.75
Nickel, cathode, dealer, lb.	1.92	1.75	1.94
Platinum, dealer, oz.	616.00	576.00	412.00
Silver, N.Y., oz.	8.81	6.90	5.23
Tin, N.Y., dealer, lb.	3.19	3.15	2.62
Zinc, Prime West, East St. Louis, lb.	.45	.37	.33
Zinc, die casting alloy, No. 3, lb.	.465	.445	.415
PAPER			
Uncoated book #3 offset, ton	860.00	860.00	850.00
Watermarked bond, ton	985.00	985.00	985.00
Gummed sealing tape, carton	16.44	16.51	16.27
Shipping sacks, ton	390.00	390.00	390.00
Solid bleached paperboard, ton	620.00	620.00	550.00
Kraft linerboard, 42 lb., unbleached, ton	350.00	350.00	290.00
TEXTILES			
Burlap, 10 oz., 40", N.Y., yd.	.241	.242	.237
Cotton drill, 1.85, 59", 68x49, N.Y., yd.	1.130	1.150	1.045
Cotton middling, 1", N.Y., lb.	.630	.540	.645
Printcloth, 48", 80x80, N.Y., spot, yd.	1.00	.97	.68
Army duck, 37", 13 oz., yd.	1.445	1.405	1.480
Blended printcloth, 64", 78x54, yd.	.97	.90	.80
20s combed yarns	1.82	1.77	2.05
Wool 64s, Staple, lb.	2.70	2.55	1.95

CHEMICALS

	Latest price	Previous month	Year ago
Acrylonitrile, tanks, lb.	.395	.395	.395
Ammonia, anhydrous, tankcars, Gulf Coast, ton	105.00	105.00	100.00
Benzene, petroleum, tanks, Houston, gal.	2.52	1.55	.740
Caustic soda, 76% solid, drums, carlots, cwt.	26.00	26.00	26.00
Cresylic acid [over 25%], tanks, lb.	.58	.58	.58
Formaldehyde, USP, 37%, [12% to 15% meth.], tanks, lb.	.106	.106	.106
Glycerine, synthetic, tanks, lb.	.91	.91	.91
Methanol, sny., tanks, 4,000 gals., f.o.b. Gulf Coast plants	.28	.28	N.A.
Naphthalene, crude, tanks, lb.	.22	.22	.22
Phthalic anhydride, tanks, lb.	.27	.27	.27
Polyethylene resin, low density liner film grade (market place), lb.	.315	.285	.325
Polypropylene, homopolymer grade (market price), lb.	.370	.350	.345
Polystyrene, general purpose grade (market price), lb.	.47	.42	.32
Polyvinyl chloride, pipe grade (market price), lb.	.325	.315	.285
Soda ash, 58%, light carlots, cwt.	6.15	6.15	6.15
Styrene monomer, 99.6%, tanks, lb.	.42	.38	.21
Sulphur, crude, ex-terminal, Tampa, Fla., lb.	145.00	152.50	157.50
Sulphuric acid, 66%, commercial, tanks, ton	66.86	66.86	66.86
Titanium dioxide, anatase, reg., carlots, lb.	.77	.77	.73
Xylene tanks, gal.	.850	.795	1.360

BUILDING MATERIALS

	Latest price	Previous month	Year ago
Lumber, 2x4 fir, mbf, cl	325.51	328.05	326.40
Lumber 2x2 pine, mbf, cl	324.56	327.84	323.60
Plywood, plyform, 1/2", msf, cl	577.50	575.00	598.70
Plywood, 1/2", msf, cl	382.00	378.60	389.40
Cement, bulk, ton, tl	63.50	63.66	65.69
Sand, ton, cl	7.14	6.72	6.57
Ready-mix concrete, 3,000 psi/cu. yd., 15 cu. yd.	48.53	48.43	47.45
Crushed stone, 1 1/2", ton, cl	8.06	8.18	7.98
Concrete blocks, sand/gravel, 8"x8"x16", ea., tl	0.89	0.84	0.83
Gypsum sheathing, 1/2"x1"x8", msf, tl	215.25	206.94	217.87
Brick, common, per thousand, tl	186.67	187.35	186.91
Asphalt paving, AC-20	125.02	128.04	162.69
Concrete sewer pipe, 12", prem. joint, per foot, cl	7.08	7.13	7.07

FUELS

	Latest price	Previous month	Year ago
Fuel oil, No. 6 or Bunker C, Gulf., bbl.	17.25	16.25	8.50
Fuel oil, No. 6 or Bunker C, N.Y., barge, bbl., reseller	19.50	19.50	14.75
Gasoline, 91 oct., reg., Los Angeles, rack, gal.	.570	.555	.603
Gasoline, 94 oct., reg., Chi., tank car, gal.	.548	.538	.545
Heating oil, No. 2, Chi., bulk, gal.	.518	.501	.453
Heating oil, No. 2, N.Y., bulk, gal.	.510	.490	.483
Heavy fuel, PS 400, Los Angeles, rack, bbl.	26.50	26.50	26.50
Jet kerosene, gal.	.500	.453	.420
LP-Gas, propane, Okla., tank cars, gal. [incl. discount]	.245	.245	.290

SCRAP MATERIALS

	Latest price	Previous month	Year ago
Steel, No. 1, hvy., divd., Pitts., ton	80.00	77.00	71.00
Steel, No. 1 hvy., divd., Chi., ton	73.00	71.00	73.00
Copper, No. 1, East, wholesale buy, divd., lb.	.625	.575	.580
Copper, No. 2, East, wholesale buy, divd., lb.	.545	.495	.505
Brass, red, East, wholesale buy, divd., lb.	.585	.535	.545
Brass, yellow, East, wholesale buy, divd., lb.	.345	.330	.300
Alum., old sheet/cast, E., wholesale buy, divd., lb.	.415	.385	.340
Alum., mixed clip., E., wholesale buy, divd., lb.	.455	.420	.370
Zinc, old, East, wholesale buy, divd., lb.	.200	.200	.150
Lead, clean solids, East, wholesale buy, divd., lb.	.215	.155	.108
Paper, No. 1 mixed, dir., N.Y., ton	Nom.	Nom.	Nom.
Paper, old corrug. box, dir., Chi., ton	40.00	30.00	12.00
Paper, old corrug. box, dir., N.Y., ton	15.00	25.00	12.00
Osnaburg cuttings, dir., f.o.b. N.Y., lb.	.12	.12	.10
White wipers, No. 1, dir. buy, f.o.b. N.Y., lb.	.23	.20	.12

[Sources: Metals Week, Engineering News-Record (20-city averages), Platt's Oilgram Price Service.]



Packaging

Farewell to the flats, prices going up

Robert S. Reichard, executive editor

It has been a relatively hectic few months on the packaging front—especially in corrugated where vendors have been posting hefty boosts. Add in more modest increases in other sectors (see price trend chart) and early 1987 looks a lot different from a year ago, when most prices were static or just inching ahead.

Packaging buyers, responding to a new nationwide *PurchasingWorld* survey, agree on this. They see continued, though more restrained, advances in the months immediately ahead.

Observes one Midwestern buyer, "It was unrealistic to expect the flat patterns of 1985 and early 1986 to continue. But I think we've seen the worst. Hikes from here on in should parallel general inflation, rising at a 3-4% annual rate this year and into early 1988."

The slowdown in the rate of price rise is already apparent in corrugated cartons which account for the biggest single slice of the packaging dollar. Tags, which shot up 11% in the past 12 months, may take a breather as 2Q plans for \$30/ton boost in linerboard are pushed ahead.

Packaging price moderation is also suggested by the fact that 47% of the survey's respondents see smaller increases from now through year-end—three times as many as those who see further acceleration.

But whatever price advances, few would deny that it's affecting more and more packaging areas. Aside from the boosts in paper, there's upward pressure in plastics—as basic resin prices are well above late 1986 lows. Several buyers, for example, see near-term increases in plastic bags, foam, and stretch wraps.

Metal can prices have failed to rise. However, it's hard to see how some upward pressure can be avoided, especially in aluminum, if

the light metal (where basic ingot now runs more than 10¢/lb above late 1986) remains as strong as it is.

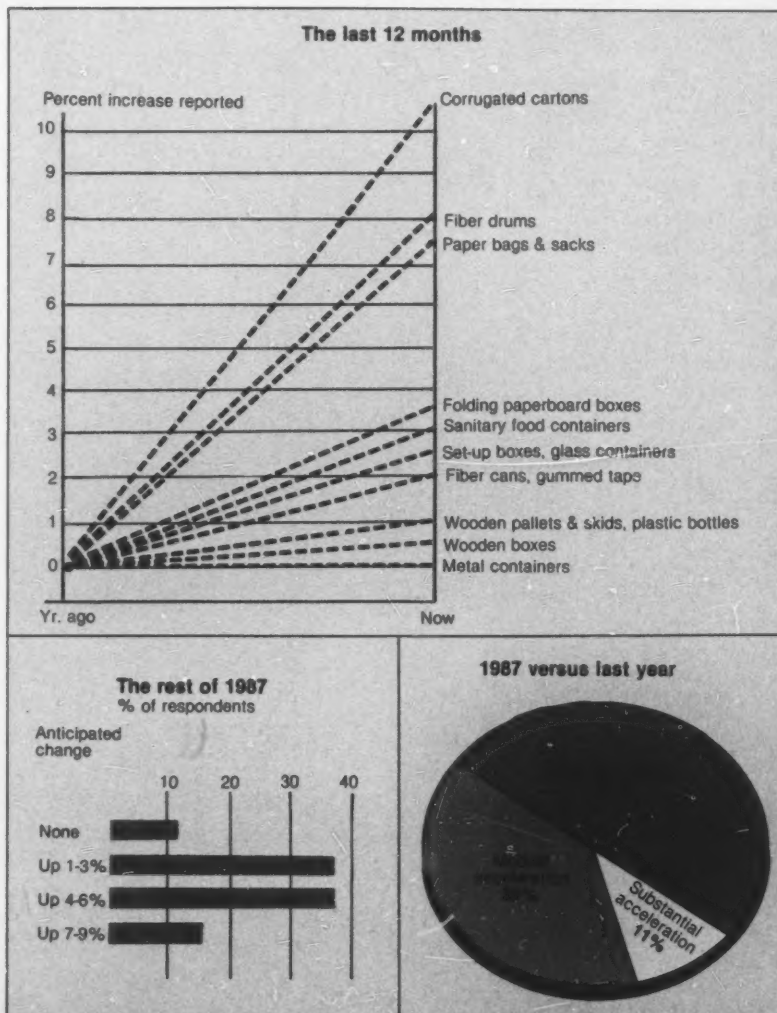
Demand continues brisk. More than 80% of *PurchasingWorld* survey respondents expect purchases of packaging materials to equal or top last year's levels. The average gain (4-6%) is also impressive.

This, in turn, has prompted a few PMs to talk about possible leadtime stretchouts. Several project slower deliveries in selected paper areas,

and a few express concern about some plastic and glass items.

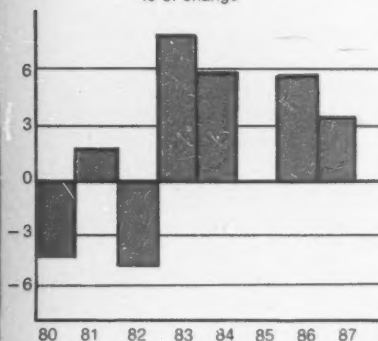
Even corrugated carton is in line for its share of improvements. One newly patented machine turns out boxes with a series of folds that allows a worker to open the box's sides and lock the bottom flaps into place simultaneously—without using staples, tape, or additional glue. Another benefit: Shippers can collapse the box and reuse it.

Metal packaging hasn't been sit-

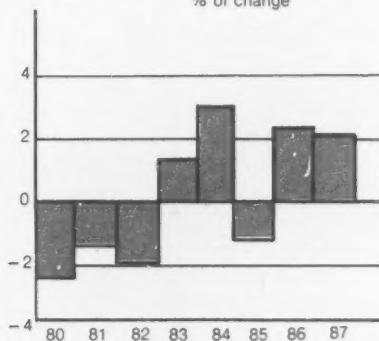


Source: Bureau of Labor Statistics, *PurchasingWorld*

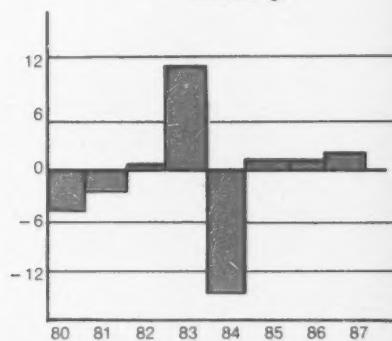
Corrugated demand
% of change



Folding boxes, demand
% of change



Set-up boxes, demand
% of change



ting still either: An aluminum food can line with commercial production is scheduled for next year. It could be a major attack on a market dominated by steel. The stakes are big—right now aluminum has only a 5% share of the food can market.

Thanks to all this competition for the packaging dollar, buyers continue to find new ways to cut costs—using such time-tested approaches as working with thinner gauge materials, redesigning, substituting, and standardizing.

Long-term contracts which limit price increases are gaining popularity, as are more single sourcing and consolidation—all aimed at increasing leverage. Insistence on buyer/vendor cooperation—the kind that can lead to product improvement and ultimately lower packaging costs—is increasing.

Here's a more detailed rundown on individual packaging lines for both 1987 and beyond.

■ **Corrugated cartons:** Further mod-

est gains loom ahead for this product which last accounted for about one-fifth of the packaging industry's estimated \$64 billion volume. Best bet now is a 292 billion square-foot shipment year—about 3% above 1986 levels—though not nearly as big a gain as in 1985, when shipments rose by nearly 6%.

Modest average annual advances of about 2.5% are projected for 1987-1991. As for competition, while the industry has lost some volume to heavy-duty, flexible plastic shrink and stretch film, and rigid plastic containers, it continues to gain share from wooden containers and metal drums.

Near-term price trends, meanwhile, will continue to depend on linerboard tags. The proposed \$380/ton linerboard quote (up \$30/ton from 1Q levels) should take hold—and that may mean another fair-sized boost in box prices before yearend.

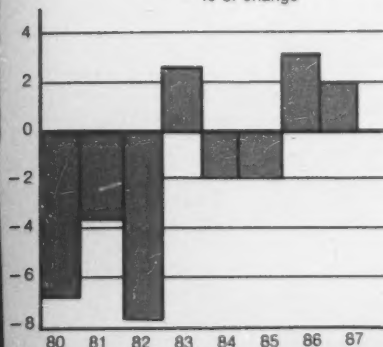
■ **Folding boxes:** Figure on a 2%

rise in real demand this year—with totals approaching the three million-ton level. Much of the advance is predicated on continued gains in the food and beverage sector. Prices should continue to climb—although probably not as fast as in the past 12 months.

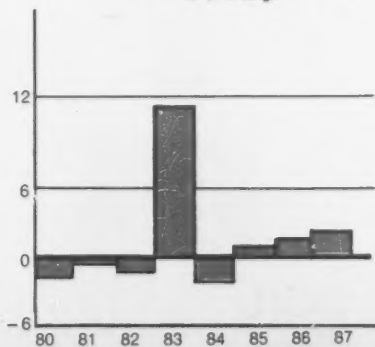
Long-term demand (1987-1991) will probably average 1.5% a year—with the upward impetus coming from a combination of slow growth in consumer durable markets (especially food) and a gradual rise in consumer incomes. Suppliers are expected to continue emphasizing product design and graphics, tamper-resistant technology, and productivity.

■ **Set-up paperboard boxes:** Look for 2% real growth for 1987. While hardly earthshaking, it's an improvement over the declines of the past decade when imports hurt markets for both textile and footwear products. New technology has enabled suppliers to expand in com-

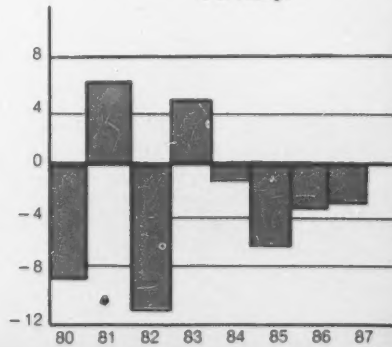
Sanitary food containers
% of change



Paper bags & flexible packaging
% of change



Composite filler containers
% of change





Packaging

puter software, video equipment, chemical, drug, and other markets.

Prices should continue to rise at a 2-3% annual rate to yearend. As for long-term demand, growth should hold in the 1.5% range—despite increased competition from plastics—and should retain most of its market share.

■ **Sanitary food containers:** Real demand will advance 2% for the second straight year in contrast to the declines of previous years. Credit the gain to increasing consumer interest in convenience foods—including aseptic food containers (a 2.5 million unit market last year). Prices have also been relatively firm—rising about 3% over the past 12 months.

Annual demand advances of 2% are projected for 1988 and beyond. Aseptics will be the growth leader—with growing competition from 1) barrier plastics (coextruded, multilayer, plastic containers which extend nonrefrigerated shelf life), and 2) retortable, flexible, plastic food-filled bags which also extend nonrefrigerated shelf life. Plastics will also play an increasing role in the construction of the aseptic package.

■ **Bags and flexible packaging:** A slight acceleration in demand (2.5%) is anticipated this year. Plastics will continue to gain market share in the bag and sack market—accounting for almost 30% of total shipments. Paper bag prices have jumped a hefty 7.5% over the past 12 months.

Plastic inroads should continue beyond 1987. By 1991, synthetics

should have half the grocery bag and sack market. Plastic shrink and stretch film (for bundling palletized loads) will grow far faster than the overall bag and flexible packaging market.

■ **Fiber cans and drums:** 1987 should mark the fourth successive year of declines as real shipments fall 3% because plastic is taking fiber's place in the can sector.

This should level off to a 1% annual gain over the next four years as losses in motor oil and frozen juice cans taper off and gains are posted in such sectors as pet food, snack food, powdered drinks and frozen food. Fiber drums should continue to do well, and moderate real growth is seen for tubes, cores, and similar fiber products.

■ **Metal cans:** Look for slow demand growth, with little upward price pressure, this year. The industry should ship only 107 billion units in 1987, resulting in less than a 2% gain over 1986. While prices may go up over the next few quarters, the overall 1987 tag should only jump 2%.

Some increase in the rate of price rise is seen for 1988 and 1989, when gains are likely to average 3-4%. Long-term demand should decelerate to about 1% annual gain for 1988-1991. Even so, metal cans will continue to account for the biggest share of the rigid container (metal, glass, and plastics) market—more than 3 out of every 5 units.

■ **Glass containers:** A seventh straight year of demand decline will push shipments down to the 268 mil-

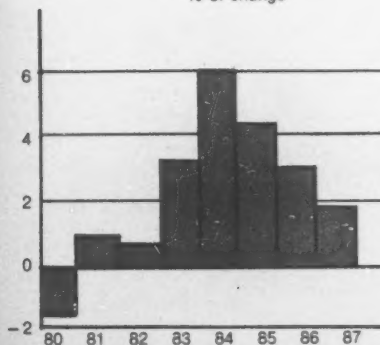
lion gross level. But the drop will be a lot less than the 3.1% average drop of the past 6 years. Reason: Stronger demand for wine coolers, new glass-packaged foods for microwave ovens, and new fruit-flavored soft drinks. Prices will continue to go up about 3% in 1987—reflecting recently reduced capacity and higher operating rates.

There should be fair-sized price increases of about 4% next year. Long-term demand should continue to slip. More losses will occur in the beer market as more packagers turn to aluminum. Also bearish for the industry: the expected erosion of the 16-ounce soft drink bottle, as more of this big market shifts to plastic.

■ **Plastic bottles:** This remains the big growth area in packaging, with a 7%+ unit gain after 9% gains for 1985 and 1986. Biggest increase (17%) will again be in the PET soft drink area. Prices should begin to rise a bit faster as resin tags move up. Some buyers already report 3-5% bottle increases.

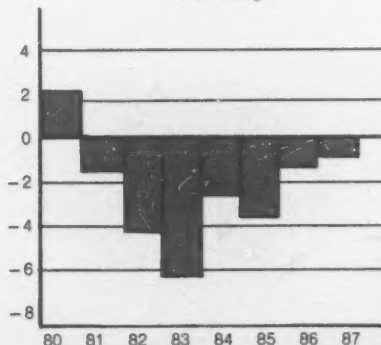
The long-term demand picture also remains bullish—though saturation could limit gains in the household chemical, toiletries, cosmetic, and drug areas. But PET bottles seem to be headed for more gains—especially in the 16-ounce soft drink area where 25% yearly advances are projected. PVC, now approved for food packaging, could also show gains in edible oil and water bottling markets. Plastic bottles, as a whole, could advance about 6-7% annually for at least 5 years. **PW**

Metal cans
% of change

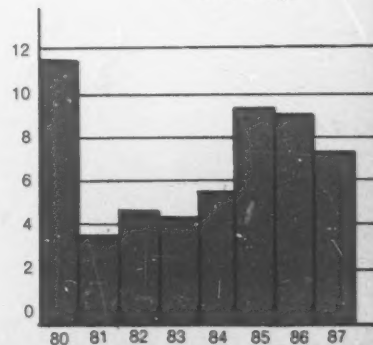


Source: Commerce Dept.

Glass containers
% of change



Plastic bottles
% of change



Rates look great for 1987

Strong competitive pressures will continue to hold down near-term freight rate boosts, according to Wharton Econometrics' most recent transportation report. Wharton's analysts now project a 2.4% overall increase for 1987 vs. the 2.5% estimate they made three months ago. That's still under the general inflation rate and a rise of only 1% from 1986.

Factors behind this optimism are relatively small demand gains, lingering excess capacity, and manageable cost increases. But this could change next year as demand edges up (GNP should grow 3.3% in 1988 vs. 2.5% in 1987) and costs (especially energy) begin to rise faster. Result: Overall freight tabs could rise 4.2% in 1988 and jump again to 4.9% in 1989.

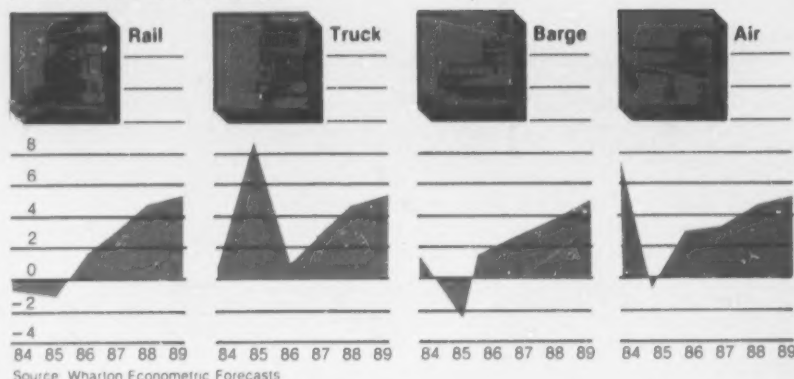
But all this should be viewed in perspective. Wharton sees industrial producer tags advancing 4.5% and 5.2% in 1988 and 1989. Implication: Freight rate boosts will be modest in terms of the overall price climate. Individual modes shape up as follows:

■ **Trucking:** The smallest rate increases—at least for 1987—are expected in this sector. Much of the moderation is due to widespread discounting, "the fiercest since the industry was deregulated in 1980," according to one carrier. Other downward pressures stem from improved efficiency, low fuel costs, and continued productivity gains.

Truck rate increases should be held to 2.2% this year after a 1.0% rise in 1986. With fuel and demand

Freight cost outlook by mode

(Percent increase over previous year)



heating up, price hikes could accelerate to 4.2% in 1988 and to 5% by 1989.

■ **Rail:** Demand, relatively static in 1986, eased a bit early this year. While the losses are likely to be made up, no appreciable advance is seen for 1987. The industry's big volume customers—steel, ores, lumber, and coal—show only modest growth.

Intermodal is expected to be the strongest sector. This means continued moderation in prices due to competition with low-cost and non-union trucking. Price hikes should average 2.8% in 1987, but rising input costs and brisker demand will push prices up 4.3% and 5.0% in 1988 and 1989.

■ **Water:** The barge industry still suffers from overcapacity which has spawned discounting and a net decline in rates since 1982. But this is being corrected as operators scrap

units and reduce the barge surplus. Another factor holding prices has been our trade deficit, making it difficult for ocean ships to find loads for their return trips abroad. This is changing as the decline in the dollar begins to help exports.

Water rates should increase 2.3% this year, following a 1.6% advance in 1986. But these rate boosts will be among the lowest in transportation—accelerating to only 3.7% and 4.4% in 1988 and 1989.

■ **Air:** Last year, both the passenger and freight sectors were up significantly. But price increases averaged only 2.7% as lower oil prices reduced cost pressures and active competition (prodded by merger and acquisition activity) provided a fertile environment for price wars.

Air freight demand remains healthy, with volume up 4.5% over the first two months. Put competitive pressures will allow only a slight acceleration in prices this year (to 3.0%). In 1988 and 1989, when fuel and other costs begin to rise, rates will jump 4.4% and 5.0%.

One change worth noting: CF AirFreight's decision to drop its overnight cargo-passenger deal with Eastern in favor of building its own fleet. This could mean more competitive pressures.

Also indicative of a competitive situation is a Federal Express move to cut tags 7% on overnight deliveries. Big customers are consolidating services with one primary carrier to get bigger discounts. **PW**

PurchasingWorld freight rate index

(1982 = 100)

